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ABSTRACT

An apparatus and method for filling a ball grid array template is disclosed. The apparatus comprises a normally horizontal base plate with the ball grid array template being mounted onto the base plate at one end. A solder ball supply bin is slidably mounted over the surface of the base plate. The bin is enclosed on three vertical sides, while the fourth vertical side proximate the ball grid array template is a pivotable ball gate. At rest, the bin is located at an end of the base plate opposite to the template. When the base is tilted, the bin slides from its rest location to the other end of the base plate, so that it is positioned over the template, thereby allowing the solder balls to fill the locating holes of the template. The base is then rotated so that it tilts the opposite way, allowing the bin to return to its rest position. As the bin returns to its rest position, the ball gate sweeps any excess balls on the surface of the template back into the bin. The sensing device monitors the position of the ball gate. If the ball gate is in an open position, this indicates an abnormality in operation.